

CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET
SACRAMENTO, CA 95814-5512
www.energy.ca.gov



CONTRACT OPPORTUNITY NOTICE

AB 118 Technical Support

CON 600-08-601

The California Energy Commission (Energy Commission) will hold a public workshop to seek comments on a contract to provide technical assistance to expand the use of alternative and renewable fuels and vehicles in California. The Energy Commission intends to release a Request for Proposals (RFP) in the fall of 2008. Up to \$9,000,000 may be available to support Energy Commission staff in conducting analysis related to alternative fuels and technologies. The purpose of the public workshop is to seek comments on the topical areas to be covered in the draft work statement. The public workshop will be held on:

TUESDAY, JULY 1, 2008
1:00PM
CALIFORNIA ENERGY COMMISSION
1516 Ninth Street
Sacramento, California
Conference Room 2 (Fishbowl)
(Wheelchair Accessible)

As part of the Fix I-5 project, from May 30 to July 15, major repairs will close Interstate 5 to through traffic between the U.S. Hwy 50/Capitol City Freeway interchange and Richards Blvd in Sacramento for several days at a time in each direction. For more information of the project itself, please visit the site [www.FixI-5.com].

Presentations and audio from the meeting will be broadcast via our WebEx web conferencing system. For details on how to participate via WebEx, please see the "Participation through WebEx" section at the end of this notice.

Background

Assembly Bill (AB) 118 (Núñez, Chapter 750, Statutes of 2007), created the Alternative and Renewable Fuel and Vehicle Technology Program to be administered by the Energy Commission. AB 118 authorizes the Energy Commission approximately \$120 million annually to award as grants, revolving loans, loan guarantees, and other appropriate measures to qualified entities to develop and deploy innovative fuel and vehicle technologies that will help achieve California's established goals for alternative fuels use, petroleum reduction, air quality, and climate change, without adopting or advocating any one preferred fuel or technology.

Purpose

At this workshop Energy Commission staff will present ideas and seek comments for an upcoming solicitation that may make available up to \$10,000,000 in contract funding over a three year term. The contract funds will be awarded to a consultant to support Energy Commission staff with technical analysis in support of the Alternative and Renewable Fuel and Vehicle Technology Program. Examples of topical areas to be covered under this contract work may include:

- Reliability of existing and potential in-state alternative and renewable fuel supplies.
- Domestic and international sustainability programs for their applicability to California.
- Alternative fuel and vehicle, and vehicle technology market assessments.
- Technical assistance to expand in-state alternative and renewable fuel production, refueling infrastructure, and distribution.
- Co-funding of projects with other local, state, and federal agencies and non-profit organizations.
- Options to assist the certification of alternative and renewable fuel vehicles to California emissions standards.
- Training programs to educate alternative and renewable fuel vehicle operators, technicians, and the general public on the safe operating procedures for vehicles and refueling stations.
- Programs to increase the general public's awareness of alternative and renewable fuels and vehicles.

A draft work statement is attached with this notice to provide further guidance to prospective bidders regarding the scope of work that may be performed under this technical support contract.

The Energy Commission invites interested parties to submit information by electronic mail (e-mail) for the following purposes:

- Indicate intent to attend the workshop.
- Provide a short summary of your thoughts on the sample topic areas listed above and in the draft work statement.
- Indicate your desire to provide a five-minute presentation of your summary at the workshop followed by a five-minute discussion period with workshop attendees.

After this workshop, participants will have 10 business days to submit their comments by electronic mail to: [DCoe@energy.state.ca.us].

Tentative Schedule

RFP Release DateFall 2008
Workshop RSVP..... [DCoe@energy.state.ca.us]
Fax Questions or Comments.....(916) 654-4676

DRAFT WORK STATEMENT

DETAILS OF TECHNICAL TASKS

These tasks are intended to assist the Energy Commission to establish and refine annual AB 118 investment plans and support implementation of the program by providing technical support to develop project funding solicitations, evaluate funding proposals, overcome barriers and troubleshoot project problems and evaluate project results among many other functions. In conducting the tasks, the contractor may perform work, gather data and complete research and analysis in a number of ways, including, but not limited to, performing independent study; conducting conference calls and personal interviews; attending, organizing and conducting meetings, workshops, seminars and conferences; and making project site visits and performing field research.

EVALUATE THE RELIABILITY OF IN-STATE ALTERNATIVE AND RENEWABLE FUEL SUPPLIES

- Evaluate alternative and renewable fuel quality and compatibility for blending with California gasoline and diesel or use as straight alternative fuel. Determine needed changes to enhance materials and vehicle compatibility, and compatibility with the fuel and electricity grid system, storage and infrastructure. Where appropriate, identify new fuel specifications and or methods for inclusion in consensus standards (for example, ASTM).
- Evaluate the technical and economic potential to extract natural gas from abandoned wells and untapped natural gas associated with oil wells for use as a transportation fuel.
- Evaluate options to produce hydrogen from California feedstocks while reducing the impact to the environment under a full fuel cycle basis and reduce production costs.
- Conduct and evaluate field trials of potential biofuel crops to improve the understanding of potential yields, water use impacts, crop growth in varying soil types and conditions, fertilizer requirements and other environmental impacts. Develop a methodology and protocol to conduct field trials, identify assumptions and data categories and analyze data. Analysis shall include, but is not limited to, field trials for sweet sorghum, sugar cane, and other oil seed crops, estimated costs of trials, data to be delivered, and schedules for completion of trials.
- Identify appropriate agricultural and marginal lands and data sources needed to assess greenhouse gas and other environmental life cycle impacts associated with energy crop production in several regions in California.
- Examine comparative economic impacts and the feasibility of displacing existing agricultural commodities in California, including energy crops grown on fallowed or marginal lands for sustainable energy crop production.

- Evaluate and make recommendations to compare energy and conventional agricultural crops and identify potential biofuel development from feedstocks based on cost, agronomic and environmental sustainability, greenhouse gas reduction potential and other factors that help determine the reliability of in-state biofuels options.

CONDUCT ALTERNATIVE AND RENEWABLE FUEL AND VEHICLE MARKET ASSESSMENTS

- For each investment plan cycle, establish baseline information on existing and planned alternative and renewable fuel production plants, fuel distribution and storage facilities, fueling stations and fueling pumps, vehicles and consumers/users. The evaluation shall include the number, geographic location, operating characteristics, fuel use and use rate of facilities and vehicles.
- Evaluate key ingredients, benchmarks, threshold levels and “trigger points” required for alternative and renewable fuel and vehicle technologies to achieve near, mid and long term success and highlight these factors for each stage of the development stream such as but not limited to research and development, production, and marketing. Evaluations shall include capital costs of vehicle manufacturing and fuel production; availability of vehicle, engine and component parts; magnitude of market share and or market penetration; magnitude of available fuel storage, infrastructure and fueling pump or recharging systems and networks; industry and sub-industry competition; comparisons to gasoline and diesel vehicle and fuel prices; fuel and vehicle availability and pricing to consumers; and consumer acceptance. The evaluations shall also include incentives, policies, programs and regulations, technology advances, investment sources and the potential of each ingredient, benchmark, threshold level and “trigger point” to stimulate success or diminish progress if not achieved.
- For each alternative and renewable fuel and vehicle, identify and evaluate opportunities to expand the growth from the baseline developed under Task 3.1. This evaluation shall include investment sources and revenue streams, amount of investment needed for individual projects and development category, vehicle turnover rates, promising technology advances, consumer acceptance of new vehicles, potential for fueling infrastructure build-out, utility involvement in home recharging and refueling systems, change in alternative fuel industry makeup, improved fuel characteristics, manufacturing threshold levels and trigger points to reduce cost, geographic locations of fuel production plants, fueling stations and vehicle users, strategic partners to fulfill policy goals, timing/pacing and frequency of market development, and synergies with energy, environment and economic development policies.
- Identify and evaluate barriers that impede achieving expansion of alternative and renewable fuels and vehicles in California.
- Identify and evaluate circumstances and actions needed to resolve barriers, including actions needed by federal and state government, and the private sector.

- Evaluate the potential to bundle renewable energy for use by residential and commercial electric-drive consumers and fleet operators. The evaluation shall also identify barriers in offering bundled renewable energy by utilities to residential and commercial electric drive consumers and fleet operators, along with recommendations for removing these barriers.

PROVIDE TECHNICAL ASSISTANCE FOR ALTERNATIVE AND RENEWABLE FUEL PRODUCTION PROJECTS UNDER AB 118

- Monitor, and when appropriate, provide permitting assistance to alternative and renewable fuel production projects. Reports shall be prepared for each site visit (or meeting) with project proponents summarizing issues and barriers, actions taken, and proposed state actions and other relevant information or recommendations.
- Evaluate options to improve the permitting process and to overcome other barriers for alternative and renewable fuel production plants as directed by the Energy Commission. Reports shall include the permitting status of planned facilities, common and unique barriers or issues among projects, facilitating roles identified and undertaken, and a summary of facilitation actions for the Energy Commission and other state agencies to support continued growth of in-state alternative and renewable fuel production facilities
- Assess the technical and economic feasibility of converting California ethanol plants to biobutanol, biohydrocarbons, or other advanced biofuel plants.
- Assess the technical and economic feasibility of waste (cellulosic) biomass pretreatment/conversion in conventional grain-based or stand-alone ethanol production facilities in California. The report shall include, at a minimum, the feasibility of potential process modifications in existing or soon to be operational ethanol production facilities compared to proposed brown or greenfield plants that would produce biobutanol, biohydrocarbons or other advanced biofuels and contribute to petroleum reduction and LCFS and *Bioenergy Action Plan* goals in AB 1007 target years, 2012, 2017, and 2022.
- Evaluate the technical and economic feasibility of potential by-products as they may contribute to overall project feasibility in new plant and proposed expansion projects. The report shall include, at a minimum, a summary of findings on potential by-products that could improve the feasibility of alternative and renewable fuel production projects in California and accelerate the development of California projects.

EVALUATE ALTERNATIVE AND RENEWABLE FUEL INFRASTRUCTURE AND DISTRIBUTION DEVELOPMENT

- Evaluate existing alternative and renewable fuel infrastructure for retail vehicles and fleet business models. Evaluate retail pricing strategies and propose options to reduce or achieve gasoline gallon equivalent pricing at the pump. The analysis

shall include at a minimum, potential business models, pricing strategies, and proposed state roles to increase the use of these fuels by owners/users of FFVs, electric vehicles (plug-in hybrids and battery electric) and dedicated fuel vehicles from 2008 to 2020.

- Evaluate the infrastructure changes and the associated capital cost requirements needed to increase the use of alternative and renewable fuels. At a minimum, the contractor shall examine changes in fuel distribution and storage, pipeline system, and terminal and retail operations and other impacts to fuel producers including refiners, distributors, and port operators,
- Identify and evaluate price and availability of gasoline blending components for E-85 blending at California's petroleum products terminals and at refinery terminal racks for the 2008-2020 timeframe. The analysis shall include, at a minimum, strategies required for E-85 and renewable diesel/biodiesel blending options and related costs to improve availability of biofuels.
- Evaluate alternative and renewable fuel options to blend and distribute fuels with gasoline and diesel and to introduce petroleum fuel replacement. Costs (terminal versus refinery, in-state versus out-of-state supply and other options) shall be included in the analysis.
- Evaluate structural changes and strategies in the wholesale and retail markets that enhance E-85 and renewable diesel/biodiesel availability at costs that are competitive to California reformulated gasoline and diesel.

PROVIDE TECHNICAL ASSISTANCE TO EXPAND THE USE OF ALTERNATIVE AND RENEWABLE FUELS AND VEHICLES

- Conduct project site visits; participate in consultation meetings with project developers, site owners, and vendors; and troubleshoot and propose solutions to operational and other issues with fueling stations and vehicles. At a minimum, the report shall include: purpose of the site visit or meeting, issues raised, identify attendees at the site visit or meeting and their role, proposed solution(s) to resolve the issue(s), and identify follow up work.
- Evaluate the status of alternative and renewable fuels and vehicles regarding commercial availability, research and development needs, costs, market application, and other factors that influence market readiness of alternative and renewable fuels and vehicles.
- Evaluate workforce training and education programs and needs; develop training curricula and programs; conduct training seminars; and facilitate outreach surveys and programs to educate fleet owners, local governments, school districts and other vehicle users about alternative and renewable fuels and vehicles. The contractor shall also help design promotional materials, marketing strategies and media programs to provide education about alternative and renewable fuels and vehicles to consumers and fleet operators. In addition, the contractor shall conduct and assist in organizing conferences, workshops and

other events to educate and increase consumer acceptance of these fuels and vehicles.

- Provide assistance to conduct AB 118 solicitations and review project proposals.

EVALUATE INCENTIVES AND FACILITATE PROJECT FUNDING AND INVESTMENT

- Identify, evaluate, and facilitate opportunities to co-partner and collaborate with other government agencies, investment funds, venture capital investors and other revenue sources to finance the development of alternative and renewable fuel projects, manufacturing plants, and new vehicle technology purchases in California. At a minimum, the contractor shall include information on financing amounts, type of projects and fuels and technologies financed, terms and conditions, geographic location of projects and investments and financial performance.
- Identify and evaluate the effectiveness of incentives offered by the U.S. federal government, other states and other countries in increasing the use of alternative and renewable fuels and vehicle population and for their applicability to California under AB 118.
- Evaluate market based production incentives and other approaches to protect in-state alternative and renewable fuel producers from weak market conditions.

EVALUATE ALTERNATIVE AND RENEWABLE FUELS AND VEHICLE EMISSIONS CERTIFICATION

- Identify technology requirements and costs to achieve California ULEV, Partial Zero Emission Vehicle (PZEV) and Advanced Technology Partial Zero Emission Vehicle (AT-PZEV) requirements for alternative and renewable fuel passenger cars, light trucks and SUVs.
- Identify regulatory accommodation concepts that provide flexible Low Emission Vehicle (LEV) and ZEV Program emissions certification options for alternative and renewable fuel vehicles while preserving or improving on manufacturer's new car fleet average emissions in the 2008 to 2012 timeframe and AB 1007 target years. The analysis shall include, at a minimum, technical issues, costs, and potential remedies associated with certification to California emissions standards under various regulatory accommodation concepts, and possible facilitating and funding roles for the Energy Commission and other state agencies.

DEVELOP AN ANALYTICAL FRAMEWORK TO EVALUATE SUSTAINABILITY

- The contractor shall identify voluntary and mandatory domestic and international sustainability programs and evaluate the effectiveness of these sustainability programs. The contractor shall develop and employ factors to evaluate the

effectiveness of sustainability programs based on but not limited to: an assessment of the relative strengths and weakness of the sustainability guidelines or criteria with respect to assuring an environmentally sustainable business practice, issues in complying with the sustainability guidelines or criteria, and issues in verifying compliance with the sustainability guidelines or criteria throughout the supply chain of the product or service. The contractor shall also examine existing sustainability programs such as the RTFO and report on the lessons learned in: establishing the program, developing the sustainability guidelines or criteria, and in implementing the program with a focus on the programs applicability in California.

EVALUATE FACTORS AFFECTING CONSUMERS' VEHICLE AND FUEL CHOICES AND FUEL AND TRAVEL DEMAND

- Provide data, methods, analysis, or assessments that will support forecasts of transportation energy or travel demand growth for different regions, sectors of transportation energy consumption, or vehicle technologies. The contractor will provide inputs and methods for determining the impacts on transportation energy or travel demand of carbon reduction or vehicle fuel efficiency programs implemented at the federal or state levels.
- Identify and evaluate technology offerings from vehicle manufacturers including, but not limited to, vehicle attributes such as price, fuel economy, acceleration, maintenance, performance under load and grade conditions, and number of makes and models offered. The contractor will define attributes for conventional, hybrid, and alternative fuel types for light-duty vehicle classes determined by Energy Commission staff. The contractor will update historic and projected information to reflect recent and expected vehicle technology advances and provide the information in a form that can be used by Energy Commission transportation demand models. The contractor will forecast these vehicle attribute projections for different policy and fuel price cases as determined by Energy Commission staff.
- Assess the fuel price and fuel and feedstock availability impacts from different Energy Commission defined assumptions regarding physical resources, geopolitical conditions, monetary and economic trends, environmental initiatives, infrastructure capacity, and growth rates for transportation energy demand, among other factors.
- Evaluate and provide projections for the development of conventional and alternative transportation energy distribution infrastructure under varying economic and policy conditions. As directed by staff, contractor will assess the type, capacity, cost, market conditions, and timing of infrastructure expansions at import, production, storage, distribution, and refueling facilities.
- Evaluate the impacts of land use decisions and policies on transportation energy use. Contractor will assess the timing and response of consumers' behavior, including shortening commutes and increasing the use of transit, walking/biking, use of satellite offices, adoption of limited-range electric vehicles, and other short

and long-term adaptations. As directed, contractor shall evaluate and make recommendations on potential modeling solutions that integrate land use and transportation markets.

Participation through WebEx, the Energy Commission's on-line meeting service

For computer logon with a direct phone number go to [<https://energy.webex.com>] and enter the unique meeting number 923 893 304, when prompted, enter your information and the password: meeting@1. After you login, a prompt will appear on-screen for you to provide your phone number. In the Number box, type your area code and phone number and click OK to receive a call back on your phone for the audio of the meeting. International callers can use the "Country/Region" button to help make their connection.

Participation for callers with an extension phone number

Go to [<https://energy.webex.com>] and enter the meeting number. When prompted, enter your information and the meeting password. **After you login, a prompt will ask for your phone number. CLICK CANCEL.** Instead call (866) 469-3239 (toll-free in the U.S. and Canada). When prompted, enter the meeting number above and your unique Attendee ID number which is listed in the top left area of your screen after you login. International callers can dial in using the "Show all global call-in numbers" link (also in the top left area).

Participation through audio only (no computer access)

Call (866) 469-3239 (toll-free in the U.S. and Canada) and when prompted enter the meeting number above. International callers can select their number from [<https://energy.webex.com/energy/globalcallin.php>]

If you have difficulty joining the meeting, please call the WebEx Technical Support number at (866) 229-3239. Please be aware that the meeting's WebEx audio and on-screen activity may be recorded.